

REMARKS/ARGUMENTS

Claims 1-22 are pending in this application. By this Amendment, claims 1-22 are amended. Support for the claims can be found throughout the specification, including the original claims and the drawings. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

I. Finality of the Office Action

A first, non-final Office Action was issued for this application on October 4, 2006. In this first Office Action, the pending claims were rejected over U.S. Patent No. 6,890,385 to Tsuchiya et al. (hereinafter “Tsuchiya”). In the Amendment filed January 4, 2006 in response to the first Office Action, Applicant set forth that, based on the priority date of the present application and the filing date of the Tsuchiya reference, that Tsuchiya is not a proper reference. Applicant submitted a certified translation of the corresponding Korean priority document in order to perfect the earlier filed claim for priority and eliminate Tsuchiya as prior art. The currently outstanding Office Action was issued on April 20, 2006 in response to the January 4, 2006 Amendment.

MPEP 706.07 states:

“[B]efore final rejection is in order a clear issue should be developed between the examiner and applicant. To bring the prosecution to as speedy conclusion as possible and at the same time to deal justly by both the applicant and the public, the invention as disclosed and claimed should be thoroughly searched in the first action and the references fully applied.”

MPEP 706.07(a) further states:

“[s]econd or subsequent actions on the merits will be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant’s amendment of the claims nor based on information submitted in an information disclosure statement.”

It is respectfully submitted that, because of the elimination of Tsuchiya as prior art, a clear issue regarding patentability was not established, and that the new grounds of rejection presented in the currently outstanding Office Action were necessitated by the inapplicability of Tsuchiya, and not by any amendments to the claims or information disclosure statement filed by Applicant. Accordingly, it is respectfully requested that the finality of the Office Action be withdrawn.

II. Rejections Under 35 U.S.C. §102

The Office Action rejects claims 1-3 and 5-9 under 35 U.S.C. §102(b) over U.S. Patent No. 4,256,532 to Magdo et al. (hereinafter “Magdo”). The rejection is respectfully traversed.

Independent claim 1 is directed to a mask for deposition of material on a flat display, comprising a first substrate having a plurality of first via holes formed therein, and a second substrate positioned on the first substrate, the second substrate having a plurality of second via holes formed therein. Independent claim 1 also recites that the plurality of first via holes define deposition areas on the flat display on which source material is deposited. Magdo neither discloses nor suggests at least such features, let alone the claimed combination of features.

Magdo discloses various embodiments of a separable silicon mask for use during an etching procedure in the fabrication of integrated circuits for a semiconductor device. The mask 10 shown in Figure 1 of Magdo includes apertures 14, and is supported by a grid of support ribs 11. It appears the Office Action has drawn a comparison between the mask 10 and apertures 14 disclosed by Magdo and the first substrate and first via holes recited in independent claim 1, and

between the support ribs 11 and the spaces 13 therebetween and the second substrate and second via holes recited in independent claim 1. However, the support ribs 11 are not part of the mask 10, and, even if improperly considered a second substrate, the support ribs 11 do not holes formed in the structure of the support rib 11 itself. Thus, Magdo neither discloses nor suggests first and second layers with first and second via holes formed therein. Further, the apertures 14 allow etching solvent to penetrate therethrough and remove adjacent material, and thus do not define deposition areas on which source material is deposited.

Magdo discloses another mask 33 in Figure 3 of Magdo which includes a single silicon layer, and apertures between adjacent peaks through which material is etched away, or removed, from the substrate of a separate semiconductor device. Magdo neither discloses nor suggests that the mask 33 itself includes first and second substrates, let alone first and second pluralities of via holes formed in such first and second substrates, nor that the apertures define deposition areas for source material, as recited in independent claim 1.

Magdo discloses another mask 41 in Figure 4 which includes a thin protective layer 46. Although the mask 41 and the protective layer 46 each have holes formed therein, the holes are clearly of the same size and shape, and Magdo neither discloses nor suggests that each of the second holes (formed in the protective layer 46) has a width greater than a width of its corresponding first hole (formed in the mask 41). Further, this mask is used during a sputter etching operation, in which material is removed, and Magdo neither discloses nor suggests that any of the openings defines deposition areas on which source material is deposited.

Each of the masks disclosed by Magdo is used during an etching procedure, in which material is removed. Magdo neither discloses nor suggests that any of the apertures in any of the masks defines a deposition area on which source material is deposited.

For at least these reasons, it is respectfully submitted that independent claim 1 is not anticipated by Magdo, and thus the rejection of independent claim 1 under 35 U.S.C. §102(b) over Magdo should be withdrawn. Dependent claims 2, 3 and 5-9 are allowable at least for the reasons set forth above with respect to independent claim 1, from which they depend, as well as for their added features.

The Office Action rejects claims 1-3, 5, 6, 10-12, 14, 15 and 22 under 35 U.S.C. §102(b) over U.S. Patent No. 4,417,946 to Bohlen et al. (hereinafter “Bohlen”). The rejection is respectfully traversed.

Independent claim 1 is directed to a mask for deposition of material on a flat display, comprising a first substrate having a plurality of first via holes formed therein, and a second substrate positioned on the first substrate, the second substrate having a plurality of second via holes formed therein. Independent claim 1 also recites that the plurality of first via holes define deposition areas on the flat display on which source material is deposited. Independent claim 10 recites similar features in varying scope. Bohlen neither discloses nor suggests at least such features, let alone the respective claimed combinations of features.

Bohlen discloses a mask used in the fabrication of a semiconductor substrate. The mask includes three metal layers 5, 6 and 16 layered atop a P+ doped layer 3 of a silicon wafer. The metal layers 5, 6, 16 include apertures 11 formed by aligned vertical walls of the metal layers 5, 6, 16. The apertures 11 of the mask (metal layers 5, 6, 16) are aligned with corresponding holes 14

formed in the doped layer 3 of the wafer. Individual corresponding holes in each of the metal layers 5, 6, 16 which form a corresponding aperture 11 is the same size, as illustrated in the cross sections of the finished mask and wafer structure shown in Figure 1. Thus, Bohlen neither discloses nor suggests first and second via holes formed in first and second substrates, wherein each second via hole has a width greater than a width of a corresponding first via hole, as recited in independent claims 1 and 10, let alone that such holes define a deposition area on which source material is deposited, as recited in independent claims 1 and 10.

It appears the Office Action has drawn a comparison between the first, second and third metal layers 5, 6, 16 which form the mask disclosed by Bohlen and the first substrate recited in independent claims 1 and 10, and the doped layer 3 of the silicon wafer disclosed by Bohlen and the second substrate recited in independent claims 1 and 10. However, it is respectfully submitted that the comparison of the doped layer 3 to the recited second substrate is improper. That is, Bohlen clearly discloses that the mask is formed by the metal layers 5, 6, 16, and then placed onto the doped layer 3 of the wafer, so as to mask the wafer. Thus, it is improper to consider a portion of the wafer itself, which is the surface to be masked, to also be part of the mask.

Accordingly, it is respectfully submitted that independent claims 1 and 10 are not anticipated by Bohlen, and thus the rejection of independent claims 1 and 10 under 35 U.S.C. §102(b) over Bohlen should be withdrawn. Dependent claims 2, 3, 5, 6, 11, 12, 14, 15 and 22 are allowable at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features.

The Office Action rejects claims 1-3, 5, 6, 10, 14 and 15 under 35 U.S.C. §102(b) over U.S. Patent No. 5,234,781 to Sakamoto et al. (hereinafter “Sakamoto”). The rejection is respectfully traversed.

Independent claim 1 is directed to a mask for deposition of material on a flat display, comprising a first substrate having a plurality of first via holes formed therein, and a second substrate positioned on the first substrate, the second substrate having a plurality of second via holes formed therein. Independent claim 1 also recites that the plurality of first via holes define deposition areas on the flat display on which source material is deposited. Independent claim 10 recites similar features in varying scope. Sakamoto neither discloses nor suggests at least such features, let alone the respective claimed combinations of features.

Sakamoto discloses a mask used during lithographic patterning of a semiconductor device. The mask includes a base body 10 covered by a mask layer 11. The mask layer 11 has a number of patterning apertures 20-25 formed therein, and the base body 10 has a through hole 15 positioned beneath the apertures 20-25. Electron beams are then directed through the apertures 20-25 and hole 15 and onto a semiconductor surface, and material is removed from the semiconductor surface to form the desired pattern. Thus, the apertures 25 and hole 15 facilitate the removal of material therethrough. Sakamoto neither discloses nor suggests that the apertures 20-25 and hole 15 define a deposition area on which source material is deposited, as recited in independent claims 1 and 10.

Accordingly, it is respectfully submitted that independent claims 1 and 10 are not anticipated by Sakamoto, and thus the rejection of independent claims 1 and 10 under 35 U.S.C.

§102(b) over Sakamoto should be withdrawn. Dependent claims 2, 3, 5, 6, 14 and 15 are allowable at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features.

The Office Action rejects claims 1-6, 10-15 and 22 under 35 U.S.C. §102(e) over U.S. Patent No. 6,916,582 to Yoshizawa et al. (hereinafter “Yoshizawa”). The rejection is respectfully traversed.

Independent claim 1 is directed to a mask for deposition of material on a flat display, comprising a first substrate having a plurality of first via holes formed therein, and a second substrate positioned on the first substrate, the second substrate having a plurality of second via holes formed therein. Independent claim 1 also recites that the plurality of first via holes define deposition areas on the flat display on which source material is deposited. Independent claim 10 recites similar features in varying scope. Yoshizawa neither discloses nor suggests at least such features, let alone the respective claimed combinations of features.

Yoshizawa discloses a stencil mask 11 used during fabrication of a semiconductor device, including a membrane layer 12 with apertures 13, a support layer 15 with a mask pattern region 14, and a substrate 17 with a mask region 16. Electron beams are directed through the apertures 13, 14 and 16 and onto a semiconductor surface so as to remove material from the semiconductor surface and form the desired pattern. Thus, the apertures 13, 14 and 16 facilitate the removal of material therethrough. Yoshizawa discloses a number of different embodiments of the stencil mask, such as, for example, the embodiment shown in Figure 4 of Yoshizawa (referred to in the Office Action). However, Yoshizawa clearly discloses that each of the embodiments of the mask are used to facilitate the removal of material. Yoshizawa neither

discloses nor suggests that the apertures define a deposition area on which source material is deposited, as recited in independent claims 1 and 10.

Accordingly, it is respectfully submitted that independent claims 1 and 10 are not anticipated by Yoshizawa, and thus the rejection of independent claims 1 and 10 under 35 U.S.C. §102(b) over Yoshizawa should be withdrawn. Dependent claims 2-6, 11-15 and 22 are allowable at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features.

III. Rejections Under 35 U.S.C. §103(a)

The Office Action rejects claims 4 and 10-22 under 35 U.S.C. §103(a) over Magdo in view of Yoshizawa. The rejection is respectfully traversed.

As acknowledged in the Office Action and as set forth above, Magdo neither discloses nor suggests the features recited in independent claim 10. Further, as set forth above, Yoshizawa fails to overcome the deficiencies of Magdo. Accordingly, it is respectfully submitted that independent claim 10 is allowable over the applied combination, and thus the rejection of independent claim 10 under 35 U.S.C. §103(a) over Magdo and Yoshizawa should be withdrawn.

Dependent claims 11-22 are allowable at least for the reasons set forth above with respect to independent claim 10, from which they depend, as well as for their added features.

Likewise, dependent claim 4 is allowable over Magdo at least for the reasons set forth above with respect to independent claim 1, from which it depends, as well as for its added features. Further, as set forth above, Yoshizawa fails to overcome the deficiencies of Magdo. Accordingly, it is respectfully submitted that claim 4 is allowable over the applied combination,

and thus the rejection of claim 4 under 35 U.S.C. §103(a) over Magdo and Yoshizawa should be withdrawn.

The Office Action rejects claims 7-9 and 16-18 under 35 U.S.C. §103(a) over Yoshizawa in view of Magdo. It is noted that the Office Action cites Yoshizawa et al., U.S. Patent No. 6,890,385 in this statement of rejection. However, U.S. Patent No. 6,890,385 is to Tsuchiya et al., which was applied in the October 4, 2005 Office Action and eliminated as prior art upon the filing of a certified translation of the present application with the Amendment filed January 4, 2006. It is assumed, for purposes of this reply, that it was the Examiner's intention to apply Yoshizawa in this rejection. The rejection is respectfully traversed.

Dependent claims 7-9 and 16-18 are allowable over Yoshizawa at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features. Further, as set forth above, Magdo fails to overcome the deficiencies of Yoshizawa. Accordingly, it is respectfully submitted that claims 7-9 and 16-18 are allowable over the applied combination, and thus the rejection of claims 7-9 and 16-18 under 35 U.S.C. §103(a) over Yoshizawa and Magdo should be withdrawn.

The Office Action rejects claims 19-21 under 35 U.S.C. §103(a) over Yoshizawa. It is noted that the Office Action cites Yoshizawa et al., U.S. Patent No. 6,890,385 in this statement of rejection. However, as set forth above, U.S. Patent No. 6,890,385 (Tsuchiya et al.) was previously eliminated as prior art. It is assumed, for purposes of this reply, that it was the Examiner's intention to apply Yoshizawa in this rejection. The rejection is respectfully traversed.

Dependent claims 19-21 are allowable over Yoshizawa at least for the reasons set forth above with respect to independent claim 10, from which they depend, as well as for their added

features. Further, as set forth above, it would not have been obvious to modify the device disclosed by Yoshizawa in the manner suggested in the Office Action. Accordingly, it is respectfully submitted that claims 19-21 are allowable over Yoshizawa, and thus the rejection of claims 19-21 under 35 U.S.C. §103(a) over Yoshizawa should be withdrawn.

The Office Action rejects claims 4, 13 and 19-21 under 35 U.S.C. §103(a) over Bohlen, and rejects claims 7-9 and 16-18 under 35 U.S.C. §103(a) over Bohlen in view of Magdo. It is noted that the Office Action cites Bohlen et al., U.S. Patent No. 6,890,385 in these statements of rejection. However, as set forth above, U.S. Patent No. 6,890,385 (Tsuchiya et al.) was previously eliminated as prior art. It is assumed, for purposes of this reply, that it was the Examiner's intention to apply Bohlen in these rejections. The rejections are respectfully traversed.

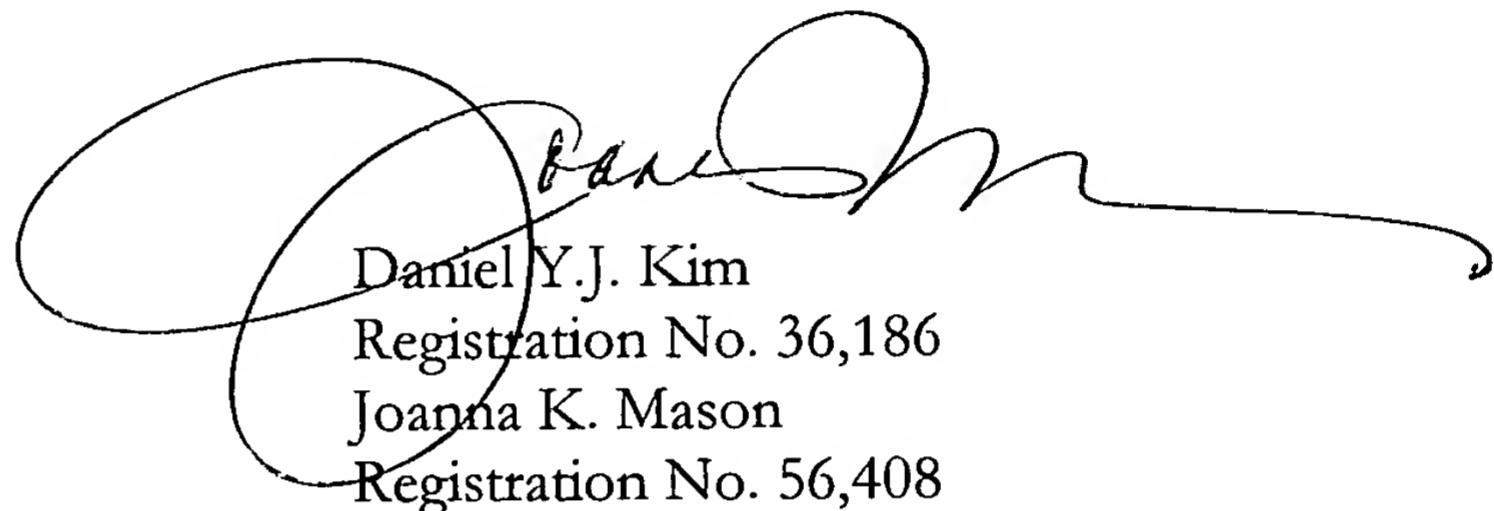
Dependent claims 4, 7-9, 13 and 16-21 are allowable over Bohlen at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features. Further, as set forth above, Magdo fails to overcome the deficiencies of Bohlen. Accordingly, it is respectfully submitted that claims 4, 7-9, 13 and 16-21 are allowable over Bohlen and Magdo, either alone or in combination, and thus the rejections should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **JOANNA K. MASON**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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